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EXAMINER	
AHVAZI, BIJAN	

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1796	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/563,198	HIHARA ET AL.	
	Examiner	Art Unit	
	BIJAN AHVAZI	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the amendment filed on June 15, 2009.

2. Claims 9-19 are pending. Claim 1 is amended. Claim 19 is newly added.

3. The objection of the disclosure because of the minor informalities is withdrawn.

4. The declaration under 37 CFR 1.132 filed on 06/15/2009 is insufficient to overcome the rejection of claim 9-18 based upon reference applied under 35 U.S.C. 103 (a) as set forth in the last Office action (see the discussion under response to arguments).

5. Claims 9, 11 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over by Himeno *et al.* (Pat. No. 5,734,028) in view of Izutsu *et al*. (JP, 04-164969 (1992) Abstract) and further in view of in view Himeno *et al.* (Pat. No. 5,332,404).

6. Claims 10, 12, 14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over by Himeno *et al.* (Pat. No. 5,734,028), Izutsu *et al*. (JP, 04-164969 (1992) Abstract) and Himeno *et al.* (Pat. No. 5,332,404) as applied to claim 9, 11and 13 as above and further in view of Tsumura *et al*. (JP, 06-345989 A, machine translation).

7. Claims 15 and 16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over by Himeno *et al.* (Pat. No. 5,734,028), Izutsu *et al*. (JP, 04-164969 (1992) Abstract), Himeno *et al.* (Pat. No. 5,332,404), and Tsumura *et al*. (JP, 06-345989 A, machine translation) as applied to claim 9, 10, 11, 12, 13 and 14 as above and further in view of Himeno *et al.* (Pat. No. 5,608,042).

8. Claims 17 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over by Himeno *et al.* (Pat. No. 5,734,028), Izutsu *et al*. (JP, 04-164969 (1992) Abstract), Himeno *et al.* (Pat. No. 5,332,404), Tsumura *et al*. (JP, 06-345989 A, machine translation), and Himeno *et al.* (Pat. No. 5,608,042) as applied to claim 9, 10, 11, 12, 13, 14, 15 and 16 as above and further in view of Akai *et al.* (Pat. No. 5, 824,118).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) a patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 9, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Himeno *et al.* (Pat. No. 5,734,028) in view of Izutsu *et al*. (JP, 04-164969 (1992) Abstract) and further in view of in view Himeno *et al.* (Pat. No. 5,332,404).

Regarding claims 9, 11 and 13, Himeno *et al.* ("028") teach a blue colored dye mixture, wherein a blue type disperse dye mixture having a certain specific monoazo dye as represented by formula (1) in an amount of 1.0 parts by weight (Col. 2, line 5) and at least one certain specific anthraquinone dye represented by formula (2,3,4) in a total amount of from 0.2 to 3.0 parts by weight (Col. 2, line 7) mixed in a specific ratio (Col. 1, line 4). The recited anthraquinone dyes represented by formula (3) is analogous to the instant applicants' blue pigment represented by structural formula (1). Furthermore, other blue dyes can be incorporated in a proportion of not higher than 10 wt %, as the case requires, and to obtain a desired color, a yellow dye or a red dye may be incorporated (Col. 2, line 39). The dye mixture of the embodiment is capable of dyeing polyester fibers made of e.g. polyethylene terephthalate, polybutylene terephthalate or a polycondensation product of terephthalic acid with 1,4-bis-(hydroxymethyl)cyclohexane, with a blue color in a short time (Col. 2, line 45 & Col. 10, line 35, Claim 7) corresponding to the instant applicants' limitation claims 11 and 13. Himeno *et*

al. (“028”) do not expressly disclose a blue colored dye mixture which comprises blue pigment represented by structural formula (2) and (3).

However, Izutsu *et al*. (JP, 04-164969 (1992), abstract machine translation) teach colored dye mixtures which give a dyed material of light to dense color. The recited anthraquinone dyes represented by formula 38, 39, 40 on page 12 are analogous to the instant applicants’ blue pigment represented by structural formula (2).

Neither Himeno *et al.* (“028”) nor Izutsu *et al*. teach a blue colored dye mixture which comprises blue pigment represented by structural formula (3). Himeno *et al.* (“404”) teach a disperse dye mixture which is excellent particularly in both the light-fastness and temperature dependency and which is capable of dyeing polyester fibers in an excellent orange to reddish blue color and a dye mixture having blended to such a disperse dye mixture yellow and blue disperse dyes or a red disperse dye (Col. 1, line 2). Himeno *et al.* (“404”) provide a disperse dye mixture comprising 100 parts by weight of the mixture of a monoazo dye of the formula (1) and a monoazo dye of the formula (2) as defined, from 2 to 2,000 parts by weight of at least one yellow disperse dye selected from the group consisting of dyes of the following formulas (3) to (7) which formulas (5) and (6) are analogous to the instant applicants’ yellow pigment represented by structural formulas (5) and (6) (Col. 4, line 15 & 25) and from 2 to 2,000 parts by weight of at least one blue disperse dye selected from the group consisting of dyes of the following formulas (8) to (10) which are analogous to the instant applicants’ blue pigment represented by structural formulas (1) , (2) and (3) (Col. 4, line 5o & Col. 5, line 5). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify blue type disperse dye mixture having at least one certain specific anthraquinone dye by Himeno *et al.* (“028”) so as to include the colored dye mixtures as taught by Izutsu *et al*. and Himeno *et al.* (“404”) with reasonable expectation that this would result in providing the leveling property,

build-up property which is useful for short-time dyeing in the field of dyeing with a medium to deep color.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a blue type disperse dye mixture having at least one certain specific anthraquinone dye by Himeno *et al.* ("028") with the colored dye mixtures as taught by Izutsu *et al*. and Himeno *et al.* ("404") in order to provide the leveling property, build-up property which is useful for short-time dyeing in the field of dyeing with a medium to deep color.

11. Claims 10, 12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Himeno *et al.* (Pat. No. 5,734,028), Izutsu *et al*. (JP, 04-164969 (1992) Abstract) and Himeno *et al.* (Pat. No. 5,332,404) as applied to claims 9, 11and 13 as above and further in view of Tsumura *et al*. (JP, 06-345989 A, machine translation).

Regarding claims 10, 12 and 14, Himeno *et al.* ("028"), Izutsu *et al*., and Himeno *et al.* ("404") teach the features as discussed above. In particular, Himeno *et al.* ("404") teach a disperse dye mixture in both the light-fastness and temperature dependency and which is capable of dyeing polyester fibers in orange to reddish blue color and a dye mixture having blended to such a disperse dye mixture yellow and blue disperse dyes or a red disperse dye (Col. 1, line 4) corresponding to the instant applicants' limitation claim 12. Himeno *et al.* ("028") also teach a series of examples wherein the dyes polyester-based fibbed material has been dyed using the composition as shown in the Table 3 (Col.10, line 50) which corresponding to the instant applicants' limitation claim 14. Himeno *et al.* ("028"), Izutsu *et al*., and Himeno *et al.*

("404") do not expressly disclose a dye composition, the blue colored dye mixture and a yellow dye mixture and /or a red dye mixture represented by structural formula (7).

However, Tsumura *et al*. (JP, 06-345989 A, machine translation) teach a disperser dye mixture which can dye polyester fibers yellow analogous to the instant applicants' blue pigment represented by structural formula (7) (Page 6, ¶0006). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify blue type disperse dye mixture having at least one certain specific anthraquinone dye by Himeno *et al.* ("028") and the colored dye mixtures by Izutsu *et al*. and Himeno *et al.* ("404") so as to include yellow dye mixture pigment as taught by Tsumura *et al*. with reasonable expectation that this would result in providing the light-fastness, temperature dependency and dyeing affinity.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a blue type disperse dye mixture having at least one certain specific anthraquinone dye by Himeno *et al.* ("028") and the colored dye mixtures from by Izutsu *et al*. and Himeno *et al.* ("404") and a yellow dye mixture pigment as taught by Tsumura *et al*. in order to provide the light-fastness, temperature dependency and dyeing affinity.

12. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Himeno *et al.* (Pat. No. 5,734,028), Izutsu *et al*. (JP, 04-164969 (1992) Abstract), Himeno *et al.* (Pat. No. 5,332,404), and Tsumura *et al*. (JP, 06-345989 A, machine translation) as applied to claims 9, 10, 11, 12, 13 and 14 as above and further in view of Himeno *et al.* (Pat. No. 5,608,042).

Regarding claims 15, 16, Himeno *et al.* ("028"), Izutsu *et al*., Himeno *et al.* ("404") and Tsumura *et al*. teach the features as discussed above. Himeno *et al.* ("028"), Izutsu *et al*.,

Himeno *et al.* and Tsumura *et al*. do not teach a method of dyeing polyester-based fibers in which the polyester-based fibers are mixed fibers of different fineness and a dyed polyester-based fiber material in which the polyester-based fibers are mixed fibers of different fineness.

However, Himeno *et al.* ("042") teach water-insoluble monoazo dyes, particularly monoazo dyes suitable for dyeing polyester fibers. More particularly, it relates to red, blue or reddish purple monoazo dyes suitable for dyeing fine denier polyester fibers (Col.1, line 6). Himeno *et al.* ("042") teach among polyester fibers, not only ordinary polyester fibers (regular denier fibers) but also microfibers (fine denier fibers, which are less than 1 d) and ultramicro fibers (which are less than 0.3 d) may be mentioned as fibers which can successfully be dyed with the monoazo dye of the present embodiment (Col.5, line 52), wherein the dyed cloths are obtained with different denier polyester fibers dyed with same color and the same color strength as shown in Example 1 (Col. 6, line 45) corresponding to the instant applicants' limitation claims 15 and 16. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify blue type disperse dye mixture having at least one certain specific anthraquinone dye by Himeno *et al.* ("028"), the colored dye mixtures by Izutsu *et al*. and Himeno *et al.* ("404") and a yellow dye mixture pigment by Tsumura *et al.* so as to include applying a method of dyeing polyester-based fibers in which the polyester-based fibers are mixed fibers of different fineness as taught by Himeno *et al.* ("042") with reasonable expectation that this would result in providing not only color fastness to washing but also various color fastnesses such as color fastnesses to perspiration (alkali), to sublimation and to water, and further, even if the dyed produces are further processed, no substantial decrease in the wet color fastness occurs.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a blue type disperse dye mixture having at least one

certain specific anthraquinone dye by Himeno *et al.* (“028”), the colored dye mixtures by Izutsu *et al*. and Himeno *et al.* (“404”) and a yellow dye mixture pigment by Tsumura *et al.* with applying a method of dyeing polyester-based fibers in which the polyester-based fibers are mixed fibers of different fineness as taught by Himeno *et al.* (“042”) *in* order to provide not only color fastness to washing but also various color fastnesses such as color fastnesses to perspiration (alkali), to sublimation and to water, and further, even if the dyed produces are further processed, no substantial decrease in the wet color fastness occurs.

13. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Himeno *et al.* (Pat. No. 5,734,028), Izutsu *et al*. (JP, 04-164969 (1992) Abstract), Himeno *et al.* (Pat. No. 5,332,404), Tsumura *et al*. (JP, 06-345989 A, machine translation), and Himeno *et al.* (Pat. No. 5,608,042) as applied to claims 9, 10, 11, 12, 13, 14, 15 and 16 as above and further in view of Akai *et al.* (Pat. No. 5, 824,118).

Regarding claims 17, 18, Himeno *et al.* (“028”), Izutsu *et al*., Himeno *et al.* (“404”), Tsumura *et al*. and Himeno *et al.* (“042”) teach the features as discussed above. Himeno *et al.* (“028”), Izutsu *et al*., Himeno *et al.,* Tsumura *et al*. and Himeno *et al.* (“042”) do not expressly teach a method of dyeing polyester-based fibers in which the polyester-based fibers are mixed fibers comprising polyester-based fibers which can be dyed with a cationic dye and regular polyester-based fibers and a dyed polyester-based fiber material in which the polyester-based fibers are mixed fibers comprising polyester-based fibers which can be dyed with a cationic dye and regular polyester-based fibers.

However, Akai *et al.* teach a dye and a dyeing method that are useful for the manufacture of automobile seat materials for which a high light-fastness at high temperatures is

required. More particularly, it relates to a dye capable of dyeing acrylic fibers and cationic-dyeable polyester fibers used as automobile seat materials or the like, and a dyeing method making use of the dye (Col.1, line 11) wherein a typical red cationic dye for acrylic fibers and cationic-dyeable polyesters fibers used in the present industrial field is C.I. Basic Red 29 (Col.1, line 60) corresponding to the instant applicants' limitation claims 17 and 18. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify a blue type disperse dye mixture having at least one certain specific anthraquinone dye by Himeno *et al.* ("028"), the colored dye mixtures by Izutsu *et al*., Himeno *et al.* ("404"), a yellow dye mixture pigment by Tsumura *et al.* and applying a method of dyeing polyester-based fibers in which the polyester-based fibers are mixed fibers of different fineness by Himeno *et al.* ("042") so as to include a dye capable of dyeing acrylic fibers and cationic-dyeable polyester fibers as taught by Akai *et al.* with reasonable expectation that this would result in having a good light-fastness at high temperatures have a little poorer light-fastness at high temperatures than the dyed products of the regular polyester fibers dyed with use of dispersion dyes having a good light-fastness at high temperature (Col. 2, line 1).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a blue type disperse dye mixture having at least one certain specific anthraquinone dye by Himeno *et al.* ("028"), the colored dye mixtures by Izutsu *et al*., Himeno *et al.* ("404"), a yellow dye mixture pigment by Tsumura *et al.* and applying a method of dyeing polyester-based fibers in which the polyester-based fibers are mixed fibers of different fineness by Himeno *et al.* ("042") with a dye capable of dyeing acrylic fibers and cationic-dyeable polyester fibers as taught by Akai *et al.* in order to have a good light-fastness at high temperatures have a little poorer light-fastness at high temperatures than the dyed

products of the regular polyester fibers dyed with use of dispersion dyes having a good light-fastness at high temperature (Col. 2, line1).

14. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Himeno *et al.* (Pat. No. 5,332,404).

Regarding claim 19, Himeno *et al.* ("404") teach a blue colored dye mixture, wherein disperse dye mixture which is excellent particularly in both the light-fastness and temperature dependency and which is capable of dyeing polyester fibers in an excellent orange to reddish blue color and a dye mixture having blended to such a disperse dye mixture yellow and blue disperse dyes or a red disperse dye (Col. 1, line 2). Himeno *et al.* ("404") provide a disperse dye mixture comprising 100 parts by weight of the mixture of a monoazo dye of the formula (1) and a monoazo dye of the formula (2) as defined, from 2 to 2,000 parts by weight of at least one yellow disperse dye selected from the group consisting of dyes of the following formulas (3) to (7) which formulas (5) and (6) are analogous to the instant applicants' yellow pigment represented by structural formulas (5) and (6) (Col. 4, line 15 & 25) and from 2 to 2,000 parts by weight of at least one blue disperse dye selected from the group consisting of dyes of the following formulas (8) to (10) which are analogous to the instant applicants' blue pigment represented by structural formulas (1) , (2) and (3) (Col. 4, line 5o & Col. 5, line 5). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify blue type disperse dye mixture as taught Himeno *et al.* ("404") in order to provide the leveling property, build-up property which is useful for short-time dyeing in the field of dyeing with a medium to deep color.

It is noted that the present claims "consisting essentially of" language does not necessarily exclude the monoazo dye of the formula (1) and (2), (a) combination of at least one yellow disperse dye of the formula (3-7) and three blue disperse dyes of the formula (8-10), and (b) at least one red disperse dye of the formula (11-14) because "consisting essentially of" renders the composition open to the inclusion of unspecified ingredients which do not materially affect the basic and novel characteristics of the composition, see *Exparte* Davis *et al.* (Bd of Appeals), 80 USPQ 448. Applicants have not submitted factual evidence showing that the monoazo dye of the formula (1) and (2), (a) combination of at least one yellow disperse dye and three blue disperse dyes, and (b) at least one red disperse dye as taught by Himeno *et al.* ("404") materially affects the instant invention.

Response to Arguments

15. Applicant's arguments filed on on June 15, 2009 have been fully considered but they are not persuasive, because it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to arrive at the same inventive composition because the disclosure of the inventive subject matter appears within generic disclosure of the prior art as taught by the cited references. Regarding the declaration under 37 CFR 1.132 filed on 06/15/2009 is insufficient to overcome the rejection of claim 9-18 based upon reference applied under 35 U.S.C. 103 (a) as set forth in the last Office action. The declaration failed to compare a disperse dye mixture comprising the mixture of a monoazo dye of the formula (1) and a monoazo dye of the formula (2), (a) combination of at least one yellow disperse dye of the formula (3-7) and three blue disperse dyes of the formula (9-10), and (b) at least one red disperse dye of the formula (11-14). Furthermore, the dyestuff mixture A excluded an isomer mixture of the formula (a1) and (a2) in comparison experiment as set forth in declaration.

16. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Examiner Information

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bijan Ahvazi, Ph.D. whose telephone number is (571)270-3449. The examiner can normally be reached on M-F 8:0-5:0. (Off every other Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from

a USPTO Customer Service Representative or access to the automated information system,

call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BA/
Bijan Ahvazi
Examiner
Art Unit 1796

09/25/2009

/Harold Y Pyon/
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